

L., *Lobelia Dortmanna* L., *Perularia flava* (L.) Rydb., *Pogonia ophioglossoides* (L.) Ker, *Rhodora canadensis* L., and *Salix sericea* Marsh.

Mr. S. Van Pelt presided over this last meeting, which practically ended the Symposium.

Some of the members had left already and others intended to leave on the following day. Several stayed over until Monday and a few stayed several days longer. Those who remained explored the region about Newton more fully. Among the interesting finds not previously noted are these: *Andromeda Polifolia* L. and *Carex limosa* L. found by Mr. Van Pelt, *Rhamnus alnifolia* L'Hér. by Mr. Long, *Triglochin maritima* L. by Dr. Elsie Kupfer, *Trollius laxus* Salisb. by Prof. C. S. Williamson, *Dryopteris Boottii* (Tuckerm.) Underw., *D. cristata* × *marginalis* Dav., and *Filix bulbifera* (L.) Underw. by the writer.

A great many interesting finds are yet in store for the botanist who has the opportunity of spending more time about Newton, where nature is still quite undisturbed in many places. This applies perhaps as well in the case of the zoölogist, as the many fearless chipmunks and numerous birds and other wild animals testify. Most of us were too much intent upon noting the plants to make records of the wild animals seen, except in the case of the birds. These were noted by Mrs. H. A. DeCoster, who made a list of them.

It is expected that the next Symposium will be held at Townsend, Delaware, or somewhere on the Delaware peninsula.

PHILIP DOWELL.\*

## REVIEWS

### Jost's Lectures on Plant Physiology

The anxiously awaited English edition† of Jost's Vorlesungen über Pflanzenphysiologie has appeared. That Professor Gibson has done admirably as a translator is certain. As the preface ex-

\* I am indebted to the recorder, Mr. Joseph Crawford, for many of the data given.

† Jost, Ludwig. Lectures on Plant Physiology. Authorized English translation by R. J. Harvey Gibson. 8vo. Pp. i-xiv + 1-564. f. 1-172. 1907. Oxford, at the Clarendon Press. Cloth, 21 s., net; half morocco, 24 s., net.

plains, no attempt to "edit" the original has been made and no responsibility is assumed for the treatment of subjects. While this attitude of the translator shows deference to the author it is to be regretted that a work of this character, which will undoubtedly be standard for some time to come, could not have been edited enough at least to avoid the continuance of confusing terminology, some of which was noted by reviewers when the German edition appeared.

In some cases the translator has unfortunately selected words which are not physiologically precise and for which a good equivalent could be used without departing from close translation. For instance, "Stoffaufnahme" is interpreted as "absorption" all through the work. Plants do not absorb substances, they admit them. Admission is certainly as nearly equivalent as "absorption." "Wasserabgabe" is translated "excretion of water," which is physiologically incorrect and inaccurate as translation. In the absence of an exact equivalent, why not use the term, exit of water, when the general passage of water from the plant is intended? Likewise, "Wasseraufnahme" could be translated, admission of water, instead of the absorption of water. The term suction is frequently used instead of the proper usage, negative pressure.

That the translator has exercised commendable discrimination in some cases is apparent in his interpretation of the word "Verwendung." Utilization or appropriation are more nearly equivalent than the word "fate," which the translator has used. Cells do not use nor do they appropriate admitted substances, though material which enters the cell does have a "fate." The same discrimination applied to the phrase, "Verwendung der aufgenommenen Stoffe" would yield "the fate of admitted substances."

Perhaps the most unfortunate confusion of terms and ideas is apparent in the persistent use of assimilation to express the synthesis of complex compounds and the word dissimilation to express the reverse process. When the German edition appeared, Professor Barnes, in his review of the work, called attention to the impropriety of the usage. In an explanatory paragraph on page 103 of this English edition the original author himself con-

cedes the justice of the criticism but offers a rather lame excuse for continuing the usage. Nitrogen assimilation of Jost could easily be the synthesis of nitrogenous compounds; photosynthesis is already restricted to carbohydrate construction in which light energy is needed and by no means covers other syntheses of carbohydrates in which light is not a factor. As Jost says, there is no good reason for treating nitrogen differently from carbon, but there is no more necessity for that than for perpetuating improper terminology "with full cognizance of the difficulties involved in so doing."

To each lecture, as indicated by brackets, there have been added by Jost himself paragraph comments on later work and references to recent literature, so that the English edition is more up to date than the original and those accustomed to always using the German should remember this as well as the fact that Jost himself has made some alterations and corrections.

The typographical work conforms to the standard of the Clarendon Press though the lines are a little too close together.

While the reviewer feels that some of the matters here discussed are important he is equally earnest in saying that the translator deserves abundant credit for the valuable service he has rendered in extending the field of usefulness of such an important work.

RAYMOND H. POND.

**Hilgard's Soils\***

Dr. Hilgard is undoubtedly the leading authority on soils in America, having studied them critically for over fifty years, under almost every climatic condition that is found in the United States, and at all stages of economic development from primeval forests and deserts to truck-farms and gardens. The volume before us contains the essence of all his previous publications on the subject, and covers the ground very thoroughly, revealing his exten-

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\* Hilgard, E. W. Soils: their formation, properties, composition, and relations to climate and plant growth in the humid and arid regions. xxvii + 593 pp. 89 figs. New York, Macmillan Co. 1906. (On the back of the title-page is a statement that the book was published in July; but the publishers apparently did not begin to advertise it in their own periodical, *Science*, until September 28, and it was first announced in the *New York Times Saturday Review of Books* about the same time.)